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UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH ADMINISTRATION  
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE  
Division of Forest Insect Investigations

FOREST INSECT CONDITIONS

Toiyabe National Forest  
Crystal Bay Area  
May 1953

RECONNAISSANCE SURVEY

Introduction

A reconnaissance survey was conducted on the Toiyabe National Forest on the Carson Ranger District in the Crystal Bay area on May 7, 1953. Ralph C. Hall, of the Forest Insect Laboratory, Berkeley, California, and Ranger Victor O. Goodwin, of the Forest, made this inspection. The area examined was the Crystal Bay area where the mountain pine beetle has been epidemic in second-growth ponderosa pine for several years.

Status and Scope of the Infestation

An aggressive infestation of the mountain pine beetle in second-growth ponderosa pine was brought to the attention of this Laboratory by the Supervisor of the Toiyabe National Forest in August 1950. Subsequent examinations indicated that the epidemic had started in 1949. Since that time, there has been very serious depletion of timber in localized centers within a general area of about 1,000 acres. The 1952 infestation continued to be epidemic, but indications were that it was not as aggressive as during the 1951 season. Most of the trees killed in 1952 were previously unsuccessfully attacked and the attacking adults pitched out. The balance of the 1952 trees are generally those of the understory which are subject to considerable competition. There is evidence that the current infestation is restricted to areas where loss has previously been heavy, with little indication of the formation of new groups in adjacent areas. This is an encouraging sign, but there still is a potential heavy crop of adults capable of causing further serious damage. It is estimated that there are approximately 300 currently infested trees in the general area, ranging from 4 to 20 inches in diameter, with an estimated average diameter of about 8 inches. This infestation is confined at the present time to private land in one ownership.

Values Threatened and Recommended Action

While the present infestation is quite localized, it is a potential threat to a large block of second-growth timber in a high-use recreational area on the Nevada side of Lake Tahoe, generally north and east of the Lake.

In view of this threat, it is recommended that an attempt be made to control the infestation through the use of toxic oils by spraying the trees standing. Because of the small size of the trees and the fact that the infestation is restricted to the lower two-thirds of trunk, it is expected that this method would be highly effective and could be done at a moderate cost. The Toiyabe Forest has a portable 2-man power driven sprayer which could be used for this purpose and has in Ranger Goodwin a man experienced in the use of this method of control. The formula recommended is ethylene dibromide, 1 part to 40 parts of diesel fuel oil by volume. It is estimated that it would take about 4 gallons of spray per tree or about 1200 gallons of fuel oil and 28 gallons of ethylene dibromide. The cost of this material is estimated at \$200 for the fuel oil and \$125 for the chemical. Ethylene dibromide is available from the W. B. Grace Company in San Francisco. This is listed as "Bromofume 85" and is available in 28 gallon drums.

If the cooperation of the owner can be secured for this project, the Berkeley, California Forest Insect Laboratory will furnish assistance and training in spotting and treating and in evaluating the results. In order to be effective, the work should be completed prior to June 15, 1953

Forest Insect Laboratory  
Berkeley, California  
May 18, 1953

Ralph C. Hall  
Entomologist